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PIPE JC139  
 APR 28 2003  
 PATENT & TRADEMARK

# **FEE TRANSMITTAL** **for FY 2003**

Effective 03/01/2003. Patent fees are subject to annual revision.

☒ Applicant claims small entity status. See 37 CFR 1.27

**TOTAL AMOUNT OF PAYMENT** (\$180.00)

## **Complete if Known**

Application Number 09/752,731  
 Filing Date January 3, 2001  
 First Named Inventor Loomis et al.  
 Examiner Name Jones, Dameron Levest  
 Art Unit 1616  
 Attorney Docket No.

## **METHOD OF PAYMENT (check one)**

☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number 08-1641

Deposit Account Name HELLER EHRMAN WHITE & McAULIFFE

The Commissioner is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Credit any overpayments  
☐ Charge any additional fee(s) during the pendency of this application  
☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## **FEE CALCULATION**

### **1. BASIC FILING FEE**

Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid
1001	750	2001	375	Utility filing fee	
1002	330	2002	165	Design filing fee	
1003	520	2003	260	Plant filing fee	
1004	750	2004	375	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
<b>SUBTOTAL (1)</b>					<b>(\$)</b>

### **2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE**

Total Claims  -20\*\* =  x  =   
 Independent Claims  -3\*\* =  x  =   
 Multiple Dependent  =

Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid
1202	18	2202	9	Claims in excess of 20	
1201	84	2201	42	Independent claims in excess of 3	
1203	280	2203	140	Multiple dependent claim, if not paid	
1204	84	2204	42	**Reissue independent claims over original patent	
1205	18	2205	9	**Reissue claims in excess of 20 and over original patent	
<b>SUBTOTAL (2)</b>					<b>(\$)</b>

\*\*or number previously paid, if greater; For Reissues, see above

## **FEE CALCULATION (continued)**

### **3. ADDITIONAL FEES**

Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for <i>ex parte</i> reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	410	2252	205	Extension for reply within second month	
1253	930	2253	465	Extension for reply within third month	
1254	1,450	2254	725	Extension for reply within fourth month	
1255	1,970	2255	985	Extension for reply within fifth month	
1401	320	2401	160	Notice of Appeal	
1402	320	2402	160	Filing a brief in support of an appeal	
1403	280	2403	140	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,300	2453	650	Petition to revive - unintentional	
1501	1,300	2501	650	Utility issue fee (or reissue)	
1502	470	2502	235	Design issue fee	
1503	630	2503	315	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	180
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	750	2809	375	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	750	2810	375	For each additional invention to be examined (37 CFR 1.129(b))	
1801	750	2801	375	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	
Other fee (specify)					
<b>SUBTOTAL (3)</b>					<b>(\$180.00)</b>

## **SUBMITTED BY**

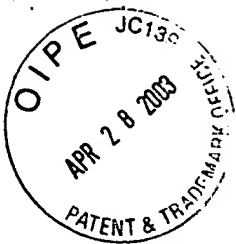
Name (Print/Type) Colin G. Sandercock  
 Signature

Registration No. 31,298  
 (Attorney/Agent)  
 Date April 28, 2003

## **Complete (if applicable)**

Telephone 202.912.2000

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Loomis et al.

Appl. No.: 09/752,731

Group Art Unit: 1616

Filing Date: January 3, 2001

Examiner: Dameron Levest Jones

Title: The Parenteral Use of Bacterial Phage Associated Lysing Enzymes for the Therapeutic Treatment of Bacterial Infections

**INFORMATION DISCLOSURE STATEMENT  
UNDER 37 CFR §1.56 and 37 CFR §1.97**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Submitted herewith on Form PTO/SB/08A is a listing of documents known to applicants in order to comply with applicants' duty of disclosure pursuant to 37 C.F.R. §1.56 and §1.97. A copy of each of the listed documents is being submitted to comply with the provisions of 37 C.F.R. §1.97-1.99.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or is considered to be material to patentability as defined in 37 C.F.R. §1.56(b). Applicants do not waive any rights to take any action that would be appropriate to antedate or otherwise remove as a competent reference any document that is determined to be a *prima facie* prior art reference against the claims of the present application.

The relevance of the documents is described in the present specification. An English translation of the French document FR-2357246 A is not readily available; however, the absence of such translation does not relieve the PTO from its duty to consider the submitted document (37 CFR §1.98 and MPEP §609).

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*#8*  
*10/17/03*  
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TECH CENTER 1600/2900

U.S. Serial No.: 09/752,731  
Loomis et al.

This Information Disclosure Statement is being filed after the mailing of a first Office action on the merits but before the mailing date of either (1) a final action under §1.113; (2) a notice of allowance under §1.311; or (3) an action that otherwise closes prosecution in the application. The required fee in the amount of \$180.00 in accordance with 37 CFR §1.17(p) is attached.

Attached as Appendix A is a list of all patents and applications filed by the present inventive entity relating to phage associated lytic enzymes and their uses. The listed U.S. patents are cited in the attached form SB/08A.

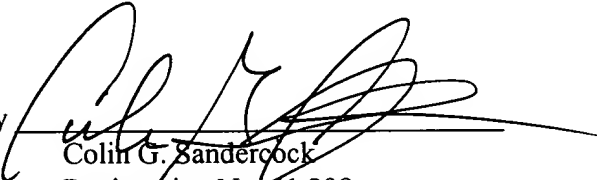
Applicants respectfully request that the listed documents be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08A be returned in accordance with M.P.E.P. §609.

Respectfully submitted,

Date: 4.28.03

Heller Ehrman White & McAuliffe  
1666 K Street, N.W.  
Suite 300  
Washington, D.C.

By

  
Colin G. Sandercock  
Registration No. 31,298

# Appendix A

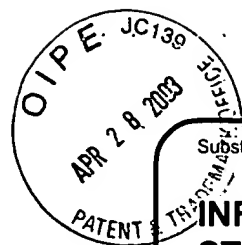
Serial No.	Filing Date	Patent No.	Issue Date
07/621,716	June 18, 1984	4,784,948	November 15, 1988
09/257,025	February 25, 1999	6,017,528	January 25, 2000
09/257,026	February 25, 1999	5,985,271	November 16, 1999
09/333,538	June 15, 1999		
09/395,636	September 14, 1999	6,056,954	May 2, 2000
09/395,637	September 14, 1999	6,056,955	May 2, 2000
09/482,992	January 14, 2000	6,264,945	July 24, 2001
09/497,495	April 18, 2000	6,238,661	May 29, 2001
09/560,650	April 28, 2000		
09/653,690	September 1, 2000	6,254,866	July 3, 2001
09/654,482	September 1, 2000	6,399,097	June 4, 2002
09/654,483	September 1, 2000	6,423,299	July 23, 2002
09/654,484	September 1, 2000		
09/671,878	September 28, 2000	6,432,444	August 13, 2002
09/671,879	September 28, 2000	6,248,324	June 19, 2001
09/671,880	September 28, 2000	6,406,692	June 18, 2002
09/671,881	September 28, 2000	6,428,784	August 6, 2002
09/671,882	September 28, 2000	6,277,399	August 21, 2001
09/671,990	September 28, 2000	6,326,002	December 4, 2001
09/671,991	September 28, 2000	6,399,098	June 4, 2002
09/671,992	September 28, 2000	6,335,012	January 1, 2002
09/703,164	November 2, 2000		
09/703,582	November 2, 2000		
09/703,583	November 2, 2000		
09/703,584	November 2, 2000		
09/703,585	November 2, 2000		
09/703,586	November 2, 2000		
09/703,587	November 2, 2000		
09/703,588	November 2, 2000		
09/703,595	November 2, 2000		
09/703,656	November 2, 2000		
09/703,685	November 2, 2000		

# Appendix A

Serial No.	Filing Date	Patent No.	Issue Date
09/703,686	November 2, 2000		
09/703,739	November 2, 2000		
09/703,740	November 2, 2000		
09/704,148	November 2, 2000		
09/704,149	November 2, 2000		
09/752,731	January 3, 2001		
09/844,435	April 30, 2001		
09/846,688	May 2, 2001		
09/866,106	May 25, 2001		
09/908,737	July 19, 2001		
09/910,940	July 13, 2001		
09/932,460	August 20, 2001		
09/960,472	September 21, 2001		
10/012,032	December 11, 2001		
10/067,979	February 8, 2002		
10/067,991	February 8, 2002		
10/067,995	February 8, 2002		
10/083,142	February 27, 2002		
10/083,462	February 27, 2002		
10/104,488	March 25, 2002		
10/105,075	March 25, 2002		
10/105,076	March 25, 2002		
10/135,824	May 1, 2002		
10/135,825	May 1, 2002		
10/135,826	May 1, 2002		
10/135,851	May 1, 2002		
10/145,604	May 14, 2002		
10/176,375	June 21, 2002		
10/176,376	June 21, 2002		
10/176,403	June 21, 2002		
10/176,405	June 21, 2002		
10/219,250	August 16, 2002		

## Appendix A

<b>Serial No.</b>	<b>Filing Date</b>	<b>Patent No.</b>	<b>Issue Date</b>
10/219,251	August 16, 2002		
10/252,031	September 23, 2002		
60/324,089	September 24, 2001		
60/380,875	May 17, 2002		



Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 11

**Complete if Known**

Application Number	09/752,731
Filing Date	01/03/01
First Named Inventor	Lawrence Loomis
Group Art Unit	1616
Examiner Name	Dameron Levest Jones
Attorney Docket Number	

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
	1	US- 6056954	05/02/00	Fischetti, et al.	
	2	US- 5997862	12/07/99	Fischetti, et al.	
	3	US- 5985271	11/16/99	Fischetti, et al.	
	4	US- 5688501	11/18/97	Merril, et al.	
	5	US- 4742981	05/10/88	Converse	
	6	US- 2019789	11/05/35	Mahannah	
	7	US- 2763931	09/25/56	McMillan	
	8	US- 5479732	01/02/96	Burtch, et al.	
	9	US- 3465445	09/09/69	Fisher	
	10	US- 2315260	03/30/43	Lancaster	
	11	US- 5604109	02/18/97	Fischetti, et al.	
	12	US- 5260292	11/09/93	Robinson, et al.	
	13	US- 4957686	09/18/90	Norris	
	14	US- 6017528	01/25/00	Fischetti, et al.	
	15	US- 6132970	10/17/00	Stemmer	
	16	US- 3852424	12/03/74	Gaeumann, et al.	
	17	US- 6264945	07/24/01	Fischetti, et al.	
	18	US- 6254866	07/03/01	Fischetti, et al.	
	19	US- 6248324	06/19/01	Fischetti, et al.	
	20	US- 6238661	05/29/01	Fischetti, et al.	

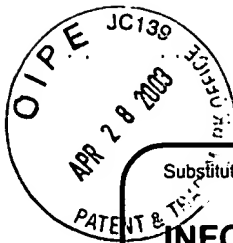
**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				
	21	EP-0510907 A 2	10/28/92	Agricultural & Food Res.		
	22	WO-9702351	01/23/97	CIBA Geigy AG, et al.		
	23	WO-9607329	03/14/96	Univ. Maryland		
	24	WO-9904809	02/04/99	Ambi, Inc.		
	25	FR-2357246	02/03/78	Martinez		
	26	WO-9531562	11/23/95	Quest International B.V.		
	27	EP-587541 A1	03/16/94	Tecnogen ScpA		

Examiner  
SignatureDate  
Considered

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.



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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet 2 of 11

**Complete if Known**

Application Number	09/752,731
Filing Date	01/03/01
First Named Inventor	Lawrence Loomis
Group Art Unit	1616
Examiner Name	Dameron Levest Jones
Attorney Docket Number	

**U.S. PATENT DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
	28	US- 6056955	05/02/00	Fischetti, et al.	
	29	US- 5882631	03/16/99	Suga, et al.	
	30	US- 5741487	04/21/98	Asai, et al.	
	31	US- 6113887	09/05/00	Mori, et al.	
	32	US- 4122158	10/24/78	Schmitt	
	33	US- 3983209	09/28/76	Schmitt	
	34	US- 4885163	12/05/89	Shaar, et al.	
	35	US- 6177554	01/23/01	Woo, et al.	
	36	US- 6187757	02/13/01	Clackson, et al.	
	37	US- 5162226	11/10/92	Beachey, et al.	
	38	US- 6335012	01/01/02	Fischetti, et al.	
	39	US- 6326002	12/04/01	Fischetti, et al.	
	40	US- 6277399	08/21/01	Fischetti, et al.	
	41	US- 4062941	12/13/77	Davies	
	42	US- 5571667	11/05/96	Chu, et al.	
	43	US- 5514602	05/07/96	Brooks Jr, et al.	
	44	US- 5500350	03/19/96	Baker, et al.	
	45	US- 5384265	01/24/95	Kidwell, et al.	
	46	US- 4361537	11/30/82	Deutsch, et al.	
	47	US- 5120643	06/09/92	Ching, et al.	

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TECH CENTER 1600/2809**FOREIGN PATENT DOCUMENTS**

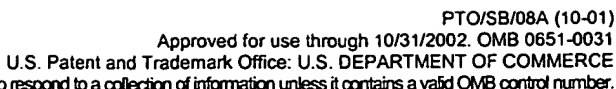
Examiner Initials *	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				
	48	WO-9323544	11/25/93	The University Court of the University of Glasgow		
	49	EP-0293249 A1	11/30/88	Amrad Corporation Limited		
	50	EP-0646646 A2	04/05/95	Bristol-Myers Squibb Company		
	51	EP-0359873 A1	03/28/90	The Public Health Research Inst. of the City of New York		

Examiner  
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**Complete if Known**

Application Number	09/752,731
Filing Date	01/03/01
First Named Inventor	Lawrence Loomis
Group Art Unit	1616
Examiner Name	Dameron Levest Jones
Attorney Docket Number	

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Sheet	4	of	11
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[illegible][illegible]Date  
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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.

<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.



PTO/SB/08B(10-01)

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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Sheet 5 of 11

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Application Number	09/752,731
Filing Date	01/03/01
First Named Inventor	Lawrence Loomis
Group Art Unit	1616
Examiner Name	Dameron Levest Jones
Attorney Docket Number	

**OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS**

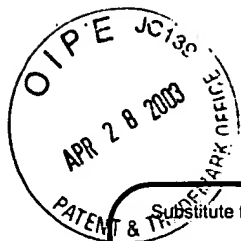
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	82	KH Nasibulini et al; RU-2103991; Composition for treating streptococcal diseases - comprises purified concentrate of streptococcal bacteriophage, solution of quinosol, dry lanolin, albumin and vegetable oil; XP-002141110	
	83	LD Demidova et al; RU2064299; Cattle mastitis therapeutic preparation - comprises lyso: amidase of specific lytic activity and mono- and di-basic sodium phosphate(s); XP-002141111	

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Examiner Signature		Date Considered	
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<sup>1</sup> Unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.



PTO/SB/08B(10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Sheet 6 of 11

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Application Number	09/752,731
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First Named Inventor	Lawrence Loomis
Group Art Unit	1616
Examiner Name	Dameron Levest Jones
Attorney Docket Number	

**OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issu number(s), publisher, city and/or country where published.	T <sup>2</sup>
	84	BABENKO et al. Enzymatic lysis of staphylococci in relation to their species and strain properties, 1990, Database Medline Online, US National Library of Medicine, Bethesda, MD, US, Database Accession No. 90297672, XP002170795, abstract only	
	85	BARTELL, et al., Origin of polysaccharide depolymerase associated with bacteriophage infection, Journal of Virology, March 1969, pp. 290-296, Vol. 3, No. 3	
	86	BEHNKE, et al., Cloning and expression in Escherichia coli, Bacillus subtilis and Streptococcus sanguis of a gene for staphylokinase - a bacterial plasminogen activator, Mol Gen Genet, December 1987, pp. 528-534, Vol. 210	
	87	BESSEN, et al., Chemical characterization of binding properties of opacity-associated protein II from Neisseria gonorrhoeae, Infection and Immunity, January 1987, pp. 141-147, Vol. 55, No. 1	
	88	BIZIULEVICHUS, et al., In vivo studies on lysostathin: 3. Efficacy for treatment of mastitis and superficial lesions of the udder and teats in cows, 1998, Database Biosis Online, Biosciences Information Service, Philadelphia, PA, US, Database Accession No. PREV199800492606, XP002183274, abstract only	
	89	BOIZET, et al., Cloning, expression and sequence analysis of an endolysin-encoding gene of Lactobacillus bulgaricus bacteriophage mv1, Gene, 2000, pp. 61-67, Vol. 94	
	90	CALDWELL, et al., Purification and partial characterization of the major outer membrane protein of Chlamydia trachomatis, Infection and Immunity, March 1981, pp. 1161-1176, Vol. 31, No. 3	
	91	YOUNG et al. Phages will out: strategies of host cell lysis, Trends in Microbiology, Volume 8 No. 3, March 2000, pp 120-127	
	92	CORBEL, et al., Soluble antigens obtained from influenza virus by treatment with non-ionic detergent, J Hyg., Camb., 1970, pp. 81-96, Vol. 68	
	93	CROUX, et al., Interchange of functional domains switches enzymes specificity: construction of a chimeric pneumococcal-clostridial cell wall lytic enzyme, Molecular Microbiology, 1993, pp.1019-25, Vol. 9, No. 5	
	94	DIAZ, et al., Chimeric phage-bacterial enzymes: a clue to the modular evolution of genes, Proc. Natl. Acad. Sci. USA, October 1990, pp. 8125-8129, Vol. 87	

Examiner  
SignatureDate  
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		Application Number	09/752,731		
		Filing Date	01/03/01		
		First Named Inventor	Lawrence Loomis		
		Group Art Unit	1616		
		Examiner Name	Dameron Levest Jones		
Sheet	7	of	11	Attorney Docket Number	

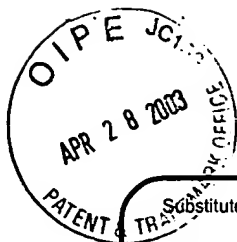
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Application Number	09/752,731
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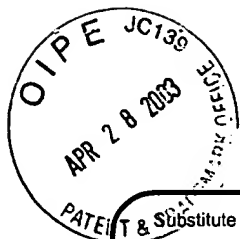
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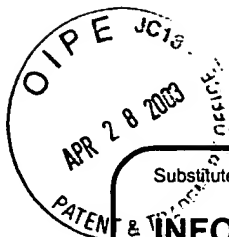
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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	09/752,731		
		Filing Date	01/03/01		
		First Named Inventor	Lawrence Loomis		
		Group Art Unit	1616		
		Examiner Name	Dameron Levest Jones		
Sheet	10	of	11	Attorney Docket Number	

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Application Number				09/752,731	
Filing Date				January 3, 2001	
First Named Inventor				Lawrence Loomis	
Group Art Unit				1616	
Examiner Name				Jones, Dameron Levest	
Attorney Docket Number					
Sheet	11	of	11		

## U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
	133	US-5605793	02/25/97	Stemmer	
	134	US- 6355477	03/12/02	Fischetti et al	
	135	US- 6331405	12/18/01	Rambukkana et al	
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